

**CLAIMS**

What is claimed is:

1. A method of treating irritable bowel syndrome (IBS) in an individual, the method comprising administering to the individual an effective amount of a therapeutic nucleic acid to reduce at least one symptom of IBS in the individual.
2. The method of claim 1, wherein the therapeutic nucleic acid comprises a nucleotide sequence of the formula 5'-CG-3'.
3. The method of claim 2, wherein the therapeutic nucleic acid comprises a nucleotide sequence of the formula 5' (TCG)<sub>n</sub>-3', where n is any integer that is 1 or greater.
4. The method of claim 2, wherein the therapeutic nucleic acid comprises a nucleotide sequence of the formula 5'-N<sub>m</sub>-(TCG)<sub>n</sub>-N<sub>p</sub>-3', wherein N is any nucleotide, wherein m and p are independently zero or 1-200, and wherein n is any integer that is 1 or greater.
5. The method of claim 1, wherein the therapeutic nucleic acid is administered via a gastroenteral route.
6. The method of claim 5, wherein the gastroenteral route is oral, intranasal, intragastric or rectal.
7. The method of claim 1, wherein the therapeutic nucleic acid is administered by a systemic route.
8. The method of claim 7, wherein the systemic route is intradermal, intramuscular, subcutaneous or intravenous.
9. The method of claim 1, further comprising administering a serotonin 5HT3 antagonist.
10. The method of claim 1, further comprising administering a laxative.

11. The method of claim 1, further comprising administering an antispasmodic agent.
12. The method of claim 1, further comprising administering an antidepressant.
13. The method of claim 1, further comprising administering an antidiarrheal agent.
14. The method of claim 1, wherein the therapeutic nucleic acid is formulated with at least one food-grade carrier.
15. The method of claim 14, wherein the food-grade carrier is selected from the group consisting of olive oil, an emulsifier, a soluble fiber, a flavoring agent, a coloring agent, an edible fiber, and a sweetener.
16. The method of claim 15, wherein the soluble fiber is selected from the group consisting of pectin, carrageenan, alginate, guar gum, locust bean gum, psyllium, xanthan gum, gum arabic, fructo-oligosaccharides, inulin, and agar.
17. The method of claim 15, wherein the emulsifier is selected from the group consisting of propylene glycol monostearate, sodium stearoyl lactylate, calcium stearoyl lactylate, a monoglyceride, a diglyceride, a mono-diglyceride a polyglycerol ester, a lactic acid ester, polysorbate, a sucrose ester, a diacetyl tartaric acid ester of mono-diglycerides, and a citric acid ester of monoglycerides.